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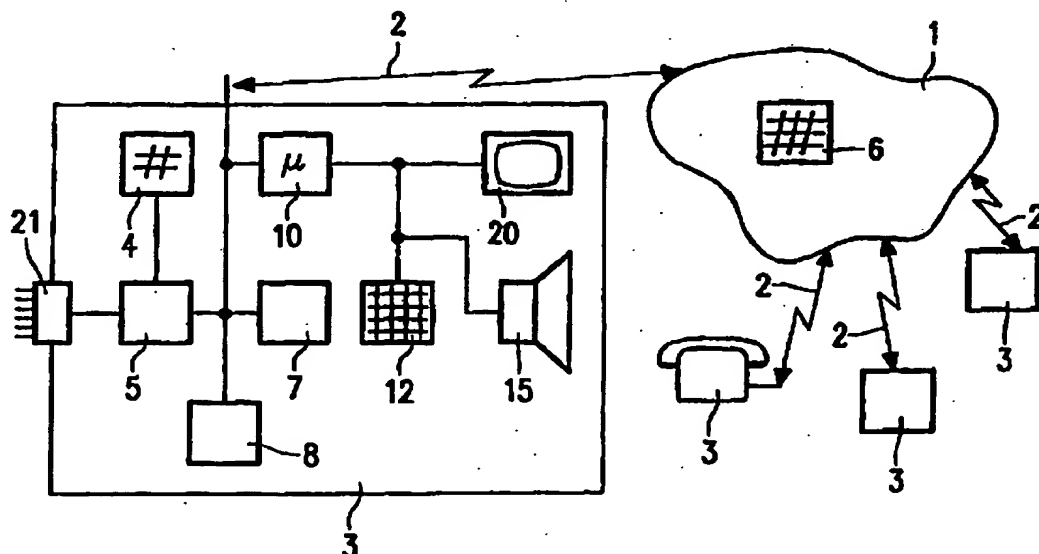
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Published

*With international search report.**Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.*(54) Title: **TELECOMMUNICATION DEVICE AND A METHOD FOR PROVIDING RINGING INFORMATION**

(57) Abstract

A telecommunication device is disclosed comprising a ringing information memory means, and a ringing information memory updating means for updating the ringing information content which has the form of, for example, melodies. The ringing information memory updating means comprises a communication link between the telecommunication device and a remote database containing a variety of alternative forms of user selectable and downloadable ringing information. This reduces the amount of memory capacity necessary in the telecommunication device, which can be a telephone, although it does not restrict the freedom of choice of a user to select his preferred songs, melodies and the like.

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"Telecommunication device and a method for providing ringing information"

The present invention relates to a telecommunication device comprising a ringing information memory and a ringing information memory updating means coupled to the ringing information memory.

5 The present invention further relates to a method for providing ringing information.

Such a telecommunication device and method are known from DE-U-9402141. The known telecommunication device concerns a telephone, facsimile and modem
10 or the like, and comprises a memory containing ringing information such as voice, music etcetera, which ringing information is stored in the ringing memory for being read out and played when the device rings. This memory in the telecommunication device contains several different kinds of ringing information, which is selectable there from. In addition the known telecommunication device comprises locally provided ringing information updating means
15 such as a microphone, a serial input interface, and memory registration means. Thus a proper type of ringing information can be input in the ringing information memory so as to update the ringing information. However this obstructs the possibility of changing to those melodies, which are not available to an individual user of the telecommunication device, and which could be popular at a certain moment in time. In addition only a limited number of
20 melodies can be prepared and stored in the ringing memory, because of the limited qualifications and means available to every individual user of the telecommunication device. Furthermore certain preferred melodies will not be registerable or can not be registered with a required degree of professionalism or quality or are simply not available or within the reach of a nominal user of the telecommunication device.

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It is an object to provide a mult selection, high quality ringing information extend/change feature to a telecommunication device such as a telephone, without however increasing price and volume of the memory in the telecommunication device.

To this end the telecommunication device according to the invention is characterised in that the ringing information updating means comprises a public database containing a variety of alternative forms of ringing information. It is an advantage of the telecommunication device according to the present invention that the size of the ringing
5 information memory therein can be reduced to a size necessary to contain, at wish just, one ringing information item, such as a melody, song, music, speech or phrase. This reduces the memory size, volume, and price as well as, the necessary hardware to read out said memory. In addition this memory reduction does however not reduce, but extend the number and the variety of user selectable ringing information items, because the content of the ringing
10 memory means in the form of ringing information is updatable from the publicly available database, at wish on a regular basis. So the personal touch and the diversity of adjustments on this point to the wishes of each individual owning a telecommunication device can be honoured in a recognisable, individualised way, without expanding hardware or hardware requirements beyond the technical means normally available to an average user. This high
15 quality, multi diverse extension can be implemented very simple on for example a personal, mobile, cellular, or cordless telephone, facsimile or automatic telephone answering machine etcetera. The public database can be managed by a manufacturer of the telecommunication device, or any other professionally suitable instance.

In an embodiment the telecommunication device according to the
20 invention is characterised in that the ringing information memory updating means is connected to the data base via a long distance communication link. Such a database can comprise one or more remotely situated databases, which are connectable directly to the telecommunication device and to the ringing information memory, but preferably there is a database which can be consulted, generally upon payment of an appropriate remuneration, by
25 means of a generally long distance communication link to each subscriber of the telecommunication device, in order to select and at wish download his favourite ringing item.

In a further embodiment the telecommunication device according to the invention is characterised in that there is provided in selection means, in particular user friendly menu driven, preferably easily software implemented, selection means coupled to the
30 database for selecting user defined forms of ringing information.

In a further elaboration the telecommunication device according to the invention is characterised in that it comprises video display means. The advantage thereof is that the user can select his preferred ringing information items, such as melodies, songs etcetera by name. This reduces the trespassing on communication time over the communica-

tion link.

At present the invention will be elucidated further together with the
5 additional advantages with reference to the accompanying drawing. In the drawing:

Fig. 1 shows a possible implementation of in particular the telecommuni-
cation device according to the present invention; and

Fig. 2 shows in a flowchart a possible sequence of events, which can take
place between the telecommunication device of figure 1 and a network containing a database.

10 Throughout the figures the same reference numerals are used for the same
features.

In an exemplary way figure 1 shows a network 1, such as for instance a
15 telephone network or ISDN network, which connects through a communication link 2, a
number of telecommunication devices, such as telephones 3 as depicted, telefacsimiles,
etcetera. In a usual fashion the telephones are capable of communicating with one another.
Each telephone 3 is provided with a ringing information memory 4, wherein information or
data is stored about the sound a telephone makes when it rings. Each telephone 3 is also
20 provided with ringing information memory updating means 5, which means 5 are connected
to the memory 4, in order to be able to update the content of the memory 4. The memory
updating means 5 is connected via the communication link 2 to a database 6, which is present
somewhere in the network 1. The database is filled with alternative forms of ringing
information such as melodies, songs, sound, soundtracks, speech etcetera. The communica-
25 tion link 2 is connected to means 7 for downloading at least one or the alternative forms of
ringing information to the ringing information memory 4. There is provided in selection
means 8 connected to the memory updating means 5 and via the communication link 2 to the
database 6 in order to be capable of selectively providing ringing information items from the
database 6 to the memory 4 in a way to be described with reference to the flowchart of
30 figure 2.

Figure 2 shows a flowchart for elucidating one possible way of imple-
menting the updating of the ringing information present in the ringing information memory 4.
Of course there are several other ways of implementing the ringing information updating
feature described here, which will be apparent to the man skilled in the relevant art. Block 9

represents the establishing of a telephone call through a number to make a connection via the telecommunication link 2 to the database 6, usually through a modem (not shown). A suitably programmed and connected microprocessor 10 in telecommunication device 3 provides a guided menu (block 11), wherein choices can be made by pushing appropriate keys on a keyboard 12, to choose (block 13) for example for ringing information in the form of music, tones, speech etcetera to be downloaded by the downloading means 7. In block 14 the chosen ringing information can at wish be prelistened by audio producing means 15 to hear the melody, speech etcetera, before being downloaded. The selection means 8 provide for a stop, next and selection in blocks 16 of a preferred and in block 17 confirmed choice of ringing information. In block 18 the means 7 download the confirmed choice and block 19 ends the session. In an alternative embodiment the telecommunication device 3 contains a video display means 20 for selecting ringing information items in the database 6 on the basis of the name displayed on the video display means 20 or a reference to a particular ringing item, generally by displaying characters on the means 20. The telecommunication device 3 could contain an connector 21 connected to the ringing information updating means 5 for directly inputting updated ringing information to the updating means 5. The inputted information can then be user recorded in order to be further personalised.

In view of the foregoing it will be evident to a person skilled in the art that various modifications may be made within the spirit and the scope of the present invention as hereinafter defined by the appended claims and that the present invention is thus not limited to the examples provided.

CLAIMS:

1. Telecommunication device comprising a ringing information memory and a ringing information memory updating means coupled to the ringing information memory, characterised in that the ringing information updating means comprises a public database containing a variety of alternative forms of ringing information.
- 5 2. Telecommunication device according to claim 1, characterised in that the ringing information memory updating means is connected to the database via a long distance communication link.
3. Telecommunication device according to claim 2, characterised in that the communication link is connected to means for downloading at least one or the alternative
- 10 forms of ringing information to the ringing information memory.
4. Telecommunication device according to claim 3, characterised in that the ringing information memory updating means is connected to selection means coupled to the database for selecting user defined forms of ringing information.
5. Telecommunication device according to claim 4, characterised in that the
- 15 selection means is a menu driven selection means.
6. Telecommunication device according to claim 1, 2, 3, 4, or 5, characterised in that the ringing information comprises audio and/or video information.
7. Telecommunication device according to claim 6, characterised in that the audio information comprises at least one melody, and/or the video information at least
- 20 comprises characters.
8. Telecommunication device according to claim 6 or 7, characterised in that the telecommunication device comprises audio producing means and/or video display means respectively.
9. Telecommunication device according to one of the foregoing claims,
- 25 characterised in that the telecommunication device is embodied as a telephone, such as for example a conventional telephone, a cordless telephone, a mobile telephone, a cellular telephone.
10. A method for providing ringing information to a telecommunication device having a ringing information memory and a ringing information memory updating

means connected to the ringing information memory, characterised in that the ringing information is downloaded from a public database comprising a variety of alternative forms of ringing information and that the ringing information memory updating means update the ringing information memory with the downloaded ringing information.

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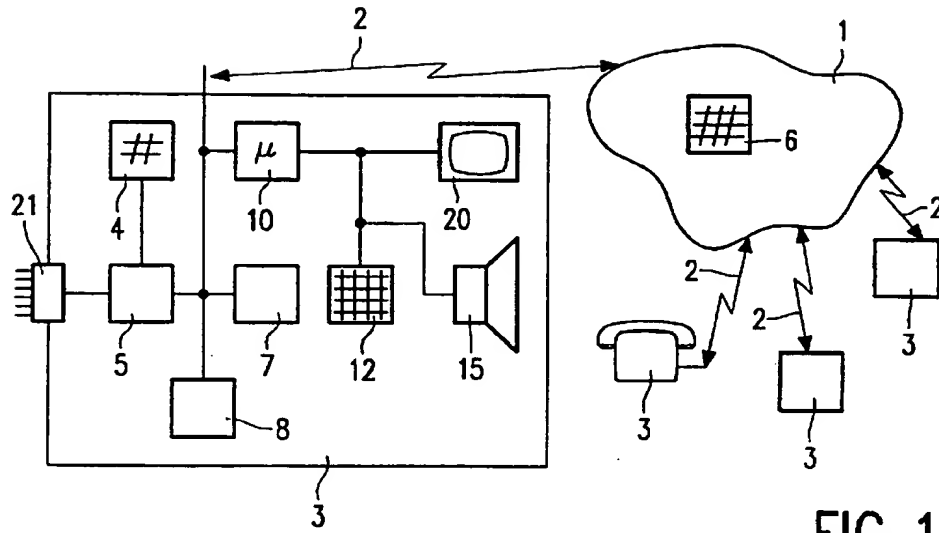


FIG. 1

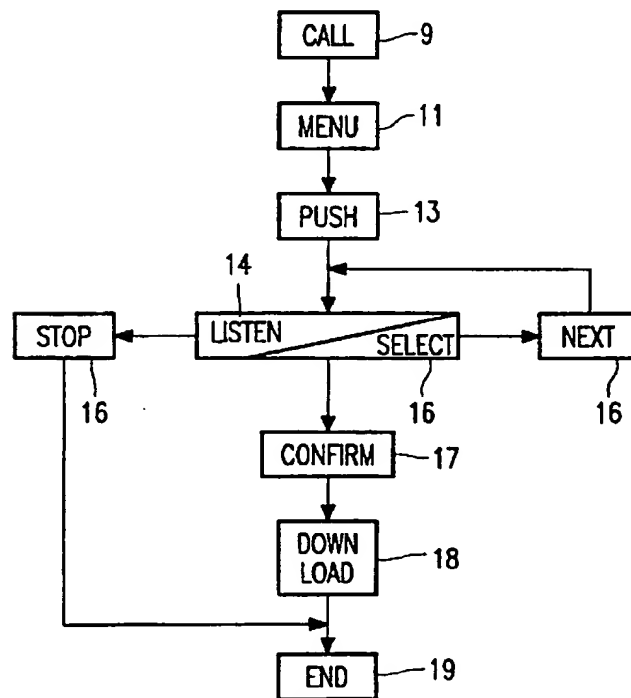


FIG. 2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 97/01432

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04M 19/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: H04M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5481599 A (DONALD I. MACALLISTER ET AL), 2 January 1996 (02.01.96), column 1, line 53 - column 4, line 58, figures 1-2, abstract -----	1-10

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"E" earlier document but published on or after the international filing date

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"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Date of the actual completion of the international search

26 March 1998

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30 -03- 1998

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report			Publication date	Patent family member(s)		Publication date	
US	5481599	A	02/01/96	AU	4237596	A	06/06/96
				WO	9615611	A	23/05/96
